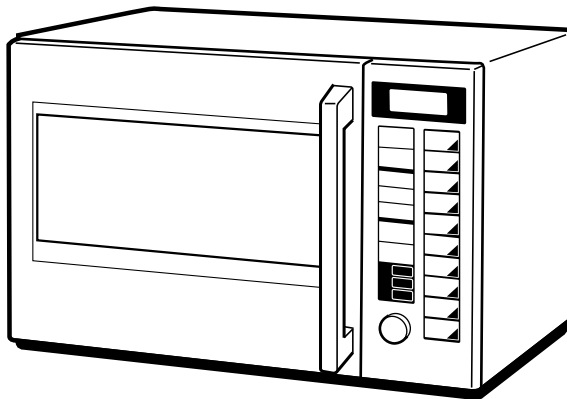


SERVICE MANUAL Microwave Oven

EM-C2001UK
EM-C2001SD



Model No	Pro.Code No
EM-C2001SD	437 508 00
EM-C2001UK	437 508 01

Foreword

Read this manual carefully, especially precaution on microwave energy, and follow the procedure strictly, careless servicing and testing may expose yourself to the microwave energy leakage.

PRECAUTIONS

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

- (a) Do not operate or allow the oven to be operated with the door open.
- (b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
 - (1) Interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
- (c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
- (d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

- TABLE OF CONTENTS -

Adjustment Procedures	1
Specifications	2
Power output Measurement	2
Precautions and Repair Service Tips	2
Circuit Diagram	3

Test Procedures and Troubleshooting.....	4-10
Disassembly Instructions.....	11-15
Exploded View and Parts List1.....	16-22
Overall Circuit Diagram.....	23-25

CAUTION

MICROWAVE RADIATION
PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USED OR CONNECTED. ALL INPUT AND OUTPUT MICROWAVE CONNECTIONS, WAVEGUIDE, FLANGES, AND GASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.

1. ADJUSTMENT PROCEDURES

TO AVOID POSSIBLE EXPOSURE TO MICROWAVE ENERGY LEAKAGE, THE FOLLOWING ADJUSTMENTS OF THE INTERLOCK SWITCHES SHOULD BE MADE ONLY BY AUTHORIZED SERVICE PERSONNEL.

A. INTERLOCK SWITCH AND DOOR SENSING SWITCH ADJUSTMENT (Figure 1-a)

- (1) Loosen 2 screws securing the lever stopper.
- (2) Adjust the lever stopper position so that it is pushed up and rotated counterclockwise until there is zero gap between the latch lever and the switch bodies when the door latch is securely locked.
- (3) Tighten the lever stopper screws securely.
- (4) Make sure the latch interlock switch and the door sensing switch open before the interlock monitor switches closes when the door is opened very slowly, according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 6.
- (5) Make sure the microwave energy leakage is below the limit of the regulation 5 mW/cm^2 when measured with a detector.
(All service adjustments must be made for minimum microwave energy leakage readings.)

B. LATCH INTERLOCK SWITCHES ADJUSTMENT (Figure 1-b)

- (1) Loosen 2 screws securing the lever stopper.
- (2) Adjust the lever stopper position so that it is pushed

up and rotated counterclockwise until there is zero gap between the latch lever and the switch bodies when the door latch is securely locked.

- (4) Make sure the latch interlock switch open before the interlock monitor switches closes when the door is opened very slowly, according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 6.
- (5) Make sure the microwave energy leakage is below the limit of the regulation 5 mW/cm^2 when measured with a detector.

(All service adjustments must be made for minimum microwave energy leakage readings.)

NOTE: If the interlock monitor circuit operates and at the same time the fuse blows with the door open, be sure to replace the relay circuit board, Interlock switch and monitor switch.

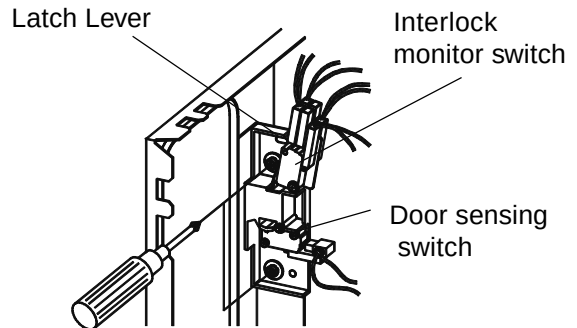


Figure 1-a

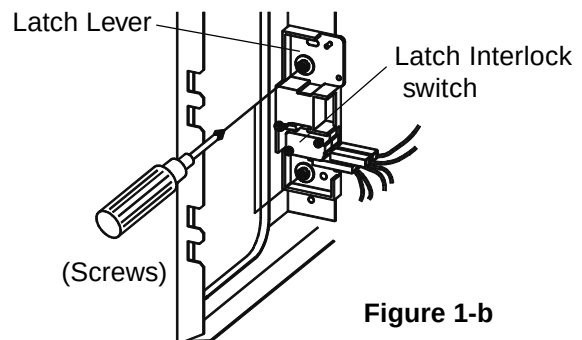


Figure 1-b

2.SPECIFICATIONS

Microwave output	1,900W,950W,190W
Frequency	2,450MHz
Power supply	220-230V, 50Hz
Rated current	13 Amp.
Safety Device	
Thermal protector(Magnetron)	150°C Open
(Cavity)	122°C Open
Thermistor (Magnetron)	200°C Open
Thermistor(Duct).....	120°C Open
Fuse (Cartridge Type)	250V 10A
Micro switch, Safty Relay	
	Interlock Switch
	Interlock monitor Switch
	Door sensing Switch and
	SaftyRelay
Max. input time	Electronic Digital, up to
	Manual 10min./Memory 30min.
Overall Dimensions	422(W)x540(D)x335(H) mm
Oven cavity size	330(W)x330(D)x230(H) mm
Effective Capacity of Oven Cavity.....	19.1liters
Net weight	32Kg

3. POWER OUTPUT MEASUREMENT

- (1) Prepare 1000±5cc tap water.
- (2) Adjust water temperature to 10 ±2°C.
- (3) Pour the water into a container made of borosilicate glass, 190mm outer diameter cylinder, maximum 3 mm thickness.
NOTE: Use the container kept on the room temperature.
- (4) Place the container in the center of the oven cavity.
- (5) Set the heating time for 25 seconds and rating full power and then start oven.
- (6) Take container out immediately when heating time up.
- (7) Stir water for making even water temperature in the container.
- (8) Measure the water temperature.

Water temperature rise shall be 8°C to 12°C.

- (9) For correct Power output measurement, the line voltage under load must be 230±2Volts.

4.PRECAUTIONS AND REPAIR SERVICE TIPS

PRELIMINARY

A. SINCE NEARLY 4,000 VOLTS EXISTS IN SOME CIRCUITS OF THIS MICROWAVE OVEN, REPAIRS SHOULD BE CARRIED OUT WITH GREAT CARE.

B. TO AVOID POSSIBLE EXPOSURE TO MICROWAVE ENERGY LEAKAGE, THE FOLLOWING PRECAUTIONS MUST BE TAKEN BEFORE SERVICING.

- (1) Before the power is applied.
 - (a) Open and close door several times to make sure the interlock switch, door sensing switch and interlock monitor switch operate properly. (Listen for the clicking sound from switches.) Make sure the interlock monitor switch is closed after the interlock switch and door sensing are open when the door is opened. (See pages 1 and 6)
 - (b) Make sure the perforated screen and the choke dielectric of the door are correctly mounted.
- (2) After the power is applied.
 - (a) Open and close the door to see if the interlock mechanism operates properly.
 - (b) Check microwave energy leakage with a leakage detector and confirm the energy leakage is below 5mW/cm²
- (3) Do not operate the unit until it is completely repaired of any of the following conditions.
 - (a) Door is not closed firmly against the cavity front.
 - (b) The hinge is broken.
 - (c) The choke dielectric or the door seal is damaged.
 - (d) The door is bent or warped, or there is any other visible damage to the oven that may cause microwave energy leakage.
Note: Always keep the seal clean.
 - (e) Make sure that there are no defective parts in the interlock mechanism.
 - (f) Make sure that there are no defective parts in the microwave generating and transmission assembly. (especially wave guide).
- (4) The following items should be checked after the unit is repaired.
 - (a) The interlock monitor switch is connected correctly and firmly.
 - (b) The magnetron gasket on the magnetron is properly positioned.
 - (c) Waveguide and oven cavity are intact. (No leakage of microwave energy).
 - (d) The door can be properly closed and the safety switches work properly.
 - (e) The oven must be stopped when the door is opened or the time is up.

The oven must not be operated with any of the above components removed or bypassed.

5.CIRCUIT DIAGRAM

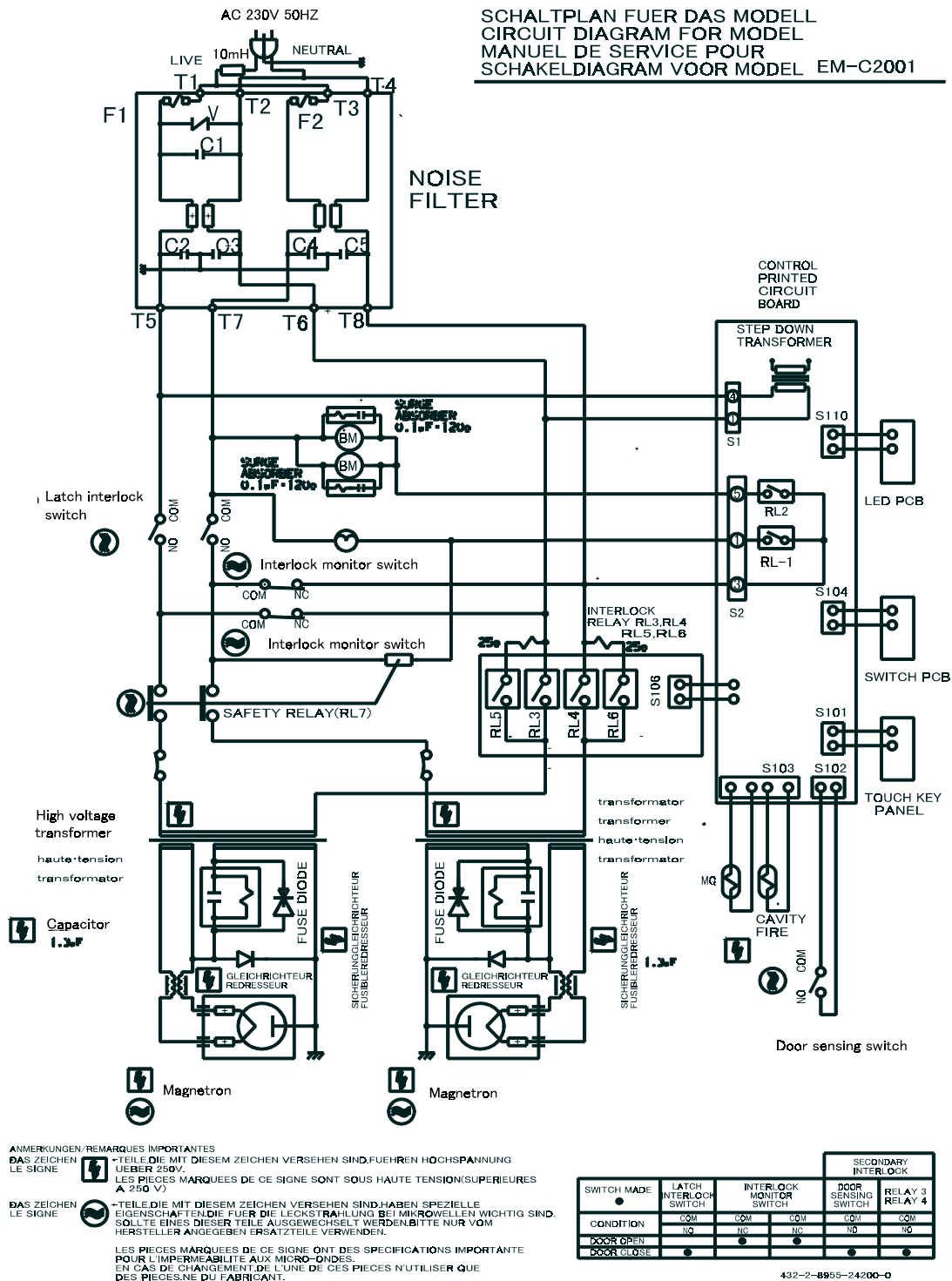


Figure 3

* Caution: The voltage between filament leads of magnetron is about 3.3VA.C, but the filament carries 4KV/DC high voltage with respect to ground. Never touch these leads with bare hand during operation.

6.TEST PROCEDURES AND TROUBLESHOOTING

CAUTION

-DISCONNECT THE POWER SUPPLY CORD FROM THE WALL OUTLET WHENEVER REMOVING THE CABINET FROM THE UNIT. PROCEED WITH TESTS ONLY AFTER DISCHARGING THE HIGH VOLTAGE CAPACITORS AND REMOVING THE LEAD WIRES ON THE PRIMARY WINDING OF THE HIGH VOLTAGE TRANSFORMERS FOR LOWER AND UPPER MAGNETRONS.

(SEE FIGURE 3)

A.TEST PROCEDURES

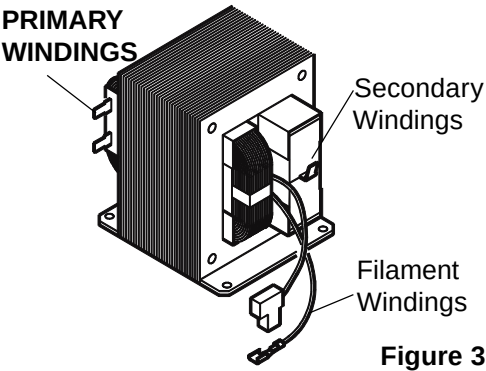
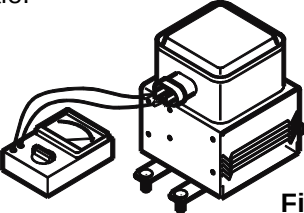
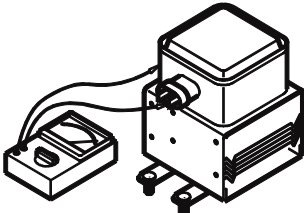
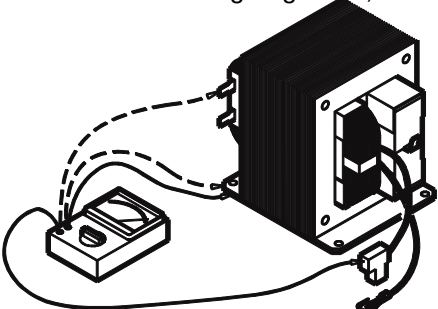
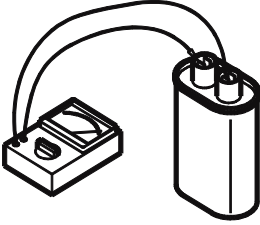
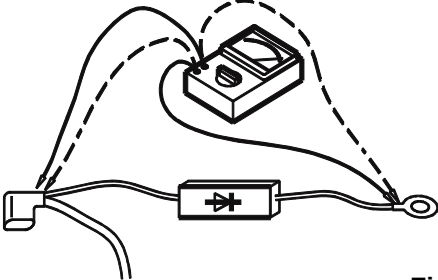
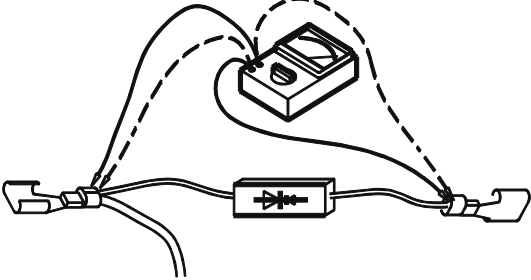


Figure 3

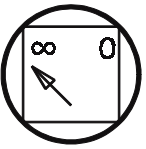
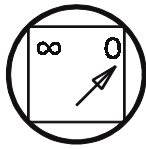
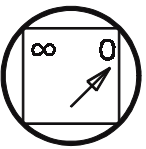
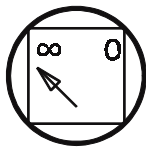
COMPONENT	CHECKOUT PROCEDURE	RESULT
MAGNETRON	1) Check for resistance: Across the filament terminal of the magnetron with an ohm - meter on Rx1 scale.  Figure 4 2) Check for resistance: Between each filament terminal of the magnetron and the chassis ground with an ohm-meter on highest scale.  Figure 5	Normal reading: Less than 1 ohm. Normal reading: Infinite ohms.
HIGH-VOLTAGE TRANSFORMER	1) Measure the resistance: With an ohm-meter on R x1 scale. a. Primary winding; b. Filament winding; c. Secondary winding; 2) Measure the resistance: with an ohm-meter on highest scale. a. Primary winding to ground; b. Filament winding to ground;  Figure 6	Normal reading: Approximately 1.0 ohms Less than 1 ohm. Approximately 60 ohms Normal reading: Infinite ohms. Infinite ohms. Note: Remove varnish of measured point.

COMPONENT	CHECKOUT PROCEDURE	RESULT
HIGH-VOLTAGE CAPACITOR Including internal bleeder resistor	Measure the resistance: Across two terminals with an ohm-meter on highest scale.  Figure 7	Normal reading: Momentarily indicates several ohms, and gradually to 10 meg-ohms. Abnormal reading: Indicates continuity or 10 meg-ohms from the beginning.
HIGH-VOLTAGE DIODE	Measure the resistance: Across two terminals with an ohm-meter on highest scale.  Figure 8	Normal reading: Indicate about middle position in one direction (forward) and infinite ohms in the reverse direction, using ohm meter with a 9V battery. NOTE - Some digital meter may show more than 0 ohms or infinite ohms even in a forward direction because the low measuring voltage of the meter does not allow the meter to pass through the high voltage diode. Use an ohm meter with a 9V battery. Abnormal reading: Indicates continuity or infinite ohms in both directions.
FUSE DIODE	Measure the resistance: Across two terminals with an ohm-meter on highest scale.  Figure 9	Normal reading: Indicate infinite ohms in both directions. Abnormal reading: Indicates continuity in both directions or continuity in one direction and infinite ohms in reversed direction.

COMPONENT	CHECKOUT PROCEDURE	RESULT			
TOUCH KEY BOARD	Measure the resistance between terminals of FPC connector after removing it from S101.(Figure 10) NOTE - When reconnecting the FPC connector, make sure the holes on the connector are properly inserted in hook of the plastic fastener in S101. MATRIX CIRCUIT FOR TOUCH KEY BOARD FPC CONNECTOR	<table><tr><td>Resistance Value</td><td>When touched Less than 1 K ohms</td><td>When not touched More than 1 meg ohms</td></tr></table> When checking the  key , connect the ohm-meter as illustrated below. TERMINAL OF FPC CONNECTOR FIGURE 10	Resistance Value	When touched Less than 1 K ohms	When not touched More than 1 meg ohms
Resistance Value	When touched Less than 1 K ohms	When not touched More than 1 meg ohms			

CHECKOUT PROCEDURE FOR SWITCHES

Disconnect the lead wires from the switches and check for the continuity of the switches, connecting an ohm-meter to its terminals.

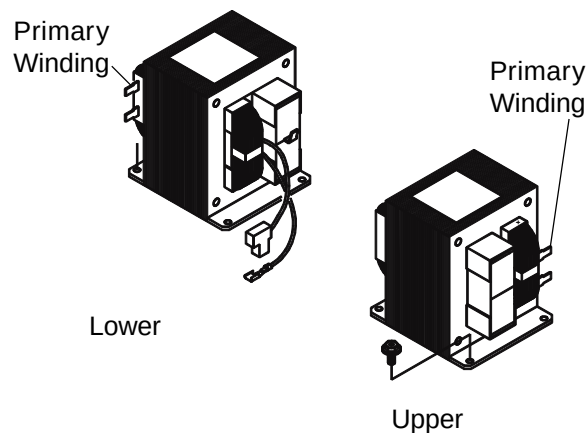
SWITCHES (SEE Figure 1 on page 1)	CHECKOUT PROCEDURES	DOOR OPEN	DOOR CLOSED
INTERLOCK SWITCH	Terminals "COM" and "NO"		
DOOR SENSING SWITCH			
INTERLOCK MONITOR SWITCH	Terminals "COM" and "NC"		

CAUTION: After checking the switches, make sure that the interlock monitor switch is properly connected according to the CIRCUIT DIAGRAM on page 3.

WARNING:

When removing the cabinet, you must disconnect the power supply cord from the wall outlet for your safety. Only the checkout procedure below needs the power supply on. TAKE GREAT CARE to avoid possible electrical shock.

For your safety, proceed with the test only after removing the wire leads from the primary winding of the high voltage transformer

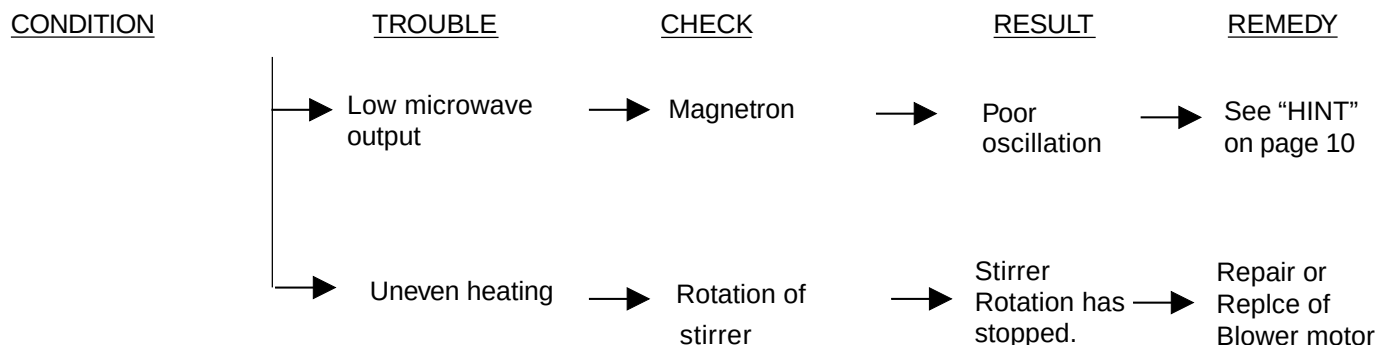


COMPONENT	CHECKOUT PROCEDURE	RESULT
CONTROL CIRCUIT BOARD	Measur the voltage : Between test points TP-1, TP-2, TP-3 and ground or between TP-4 and Tp-5(See figure 16 on page 27).	
	CAUTION: For your safety, proceed with the test only after removing the wire leads from the primary winding of high voltage transformer.	
	<u>NOTE</u> - Proceed with the check of the step-down transformer, to see if any one of the measured values is different from the specified values.	

B.TROUBLESHOOTING

CONDITION	TROUBLE	CHECK	RESULT	REMEDY
Power with normal voltage is applied. Place a cup of water inside microwave oven * "TIME", "1", "0", "0" and "⏏" keys are touched	Fuse(10A) blows off immediately	Step down Transformer	Shorted	Replace
		H.V Capacitor	Shorted	Replace
	No display cooking time	Connection of FPC from Touch key board	Incorrect	Reconnect board
		Control circuit board (See page 7)	Voltage incorrect	Replace
		Touch key board (See page 6)	Resistance incorrect	Replace
	Cooking operation will not start	Door sensing switch (See page 6)	No continuity	Replace
		Interlock switch (See page 6)	No continuity	Replace
		Control circuit board (See pages 7 & 27)	Voltage incorrect	Replace
	Oven does not heat up	See "HINT" on page 10		

* Note:Oven will not accept settings of 60 through to 99 seconds.
TIME must be entered as 1 minute and 39 seconds for 99 seconds.



C. ERROR INDICATION

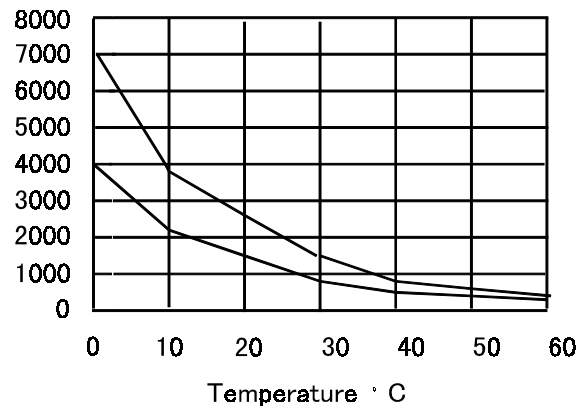
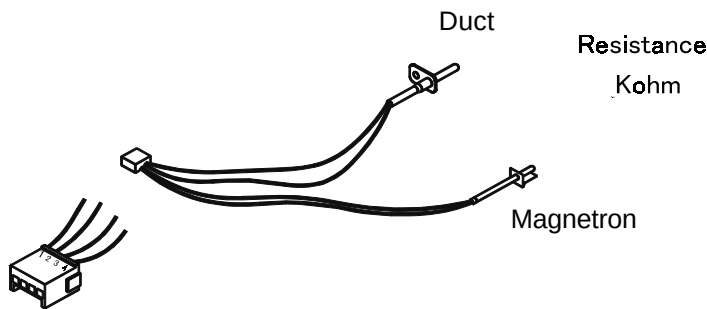
The Display will show an error indication for self-diagnosis as follows.

"E" means that a service technician is required .

"U" means that user can correct the operation.

Display	Trouble	Other Symptom	Solution
E-21	Thermistor (on duct) senses a temperature of 120°C or higher.	Oven stops heating. Buzzer continuously beeps. Blower motor will stop immediately.	Check and remove the cause of the cavity fire or abnormal overheating. This error function will be cancelled when the power cord is unplugged.
E-31	Thermistor (on Magnetron) or thermistor (on Duct) is shorted.	Oven stops heating. Buzzer does not beep. Blower motor will stop immediately.	Check for short-circuit of thermistor itself or wire insulation of thermistor. This error function be cancelled when the power cord is unplugged.
E-32	Thermistor (on Magnetron) or thermistor (on Duct) is opened.	Oven stops heating. Buzzer does not beep. Blower motor is operated.	Check for open-circuit of thermistor itself or improper connection of wire socket of thermistor. This error function be cancelled when the CLEAR key is touched.
U-10	Thermistor (on Magnetron) senses a temperature of 200°C or higher.	Oven stops heating. Buzzer continuously beeps. Blower motor will stop immediately.	Check and remove cause of abnormal overheating (such as operation with no food). This error function will be cancelled when the CLEAR key is touched.
U-50	The key for "Start" is not touched within 1 minute after the door is opened or closed .	(Remark: The purpose of this function is to avoid accidental operation while the user is not attempting to operate the oven.)	This error function will be cancelled when the door is opened and closed.

THERMISTOR CHART



"HINT"

PROCEDURE FOR DETERMINING WHETHER THE FRONT MAGNETRON CIRCUIT OR REAR MAGNETRON CIRCUIT IS DEFECTIVE.

SYMPTOM: One magnetron does not work giving less than normal heat.

Caution:

Make sure that cabinet(outer wrap) and rear plate are not removed from the oven for your safety.

1. Operate oven as follows.

- 1) Remove the lead wire on the primary winding of high voltage transformer for front magnetron.
- 2) Place a cup of water in the oven.
- 3) Close the door.
- 4) Touch "CLEAR", "TIME", "5", "0" and "◊" key to operate the oven for 50 seconds with full power level.
- 5) When water is warm, the circuit of rear magnetron is normal.
When water is still cool, the circuit of front magnetron is defective.

7. DISASSEMBLY INSTRUCTIONS

- THE OVEN MUST BE DISCONNECTED FROM THE ELECTRICAL OUTLET WHEN MAKING REPLACEMENTS, REPAIRS, ADJUSTMENT OR CONTINUITY CHECKS. BEFORE PROCEEDING WITH ANY REPAIR, WORKS, WAIT AT LEAST 1 MINUTE, UNTIL THE CAPACITOR IN THE HIGH VOLTAGE AREA HAS FULLY DISCHARGED.

A. REMOVING INTER LOCK MONITOR SWITCH

(See Figure 1 on page 1)

- (1) Disconnect all lead wires from the interlock switch.
- (2) Remove 1 screw securing the interlock monitor switch.
- (3) Make the necessary adjustments or replacement of the switch by reversing step (3) and check microwave energy leakage according to "1. ADJUSTMENT PROCEDURE FOR SWITCHES" on page 1. Check proper operation according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 6.

B. REMOVING DOOR SENSING SWITCH

(See Figure 1 on page 1)

- (1) Disconnect all lead wires from the interlock monitor switch and door sensing switch.
- (2) Remove 2 screws securing the lever stopper.
- (3) Remove 2 screws and nuts from the door sensing switch.
- (4) Make the necessary adjustments or replacement of the switch by reversing step (3) and check microwave energy leakage according to "1. ADJUSTMENT PROCEDURE FOR SWITCHES" on page 1. Check proper operation according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 6.

C.REMOVING LATCH INTERLOCK SWITCH

(See Figure on page 1)

- (1) Disconnect all lead wires from the latch interlock switch .
- (2) Remove 2 screw securing the lever stopper.
- (3) Remove 2 screws and nuts from the switch.
- (4) Make the necessary adjustments or replacement of the switch by reversing step (2) and check microwave energy leakage according to "1. ADJUSTMENT PROCEDURE FOR SWITCHES" on page 1. Check proper operation according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 6.

WHEN REPLACING ANY DOOR MICROSWITCH, REPLACE ONLY WITH THE SAME SWITCH SPECIFIED ON THE PARTS LIST.

D. REMOVING FUSE

Remove the 10A fuse with screwdriver.

NOTES

- When replacing the 10A fuse, be sure to use the exact repair part.
- If the 10A fuse blows immediately, check the primary and secondary interlock switch, the relays RL-3 and RL-5 (on the control circuit board) and the interlock monitor switch according to "CHECKOUT PROCEDURE FOR SWITCHES" on page 6. Make sure to check the microwave energy leakage according to "1. ADJUSTMENT PROCEDURE FOR SWITCHES" on page 1, when the primary and secondary interlock switches, the relay RL-3 and RL-5 or the interlock monitor switch is adjusted or replaced.
- If the interlock switch, the relay RL-3 and RL-5 or the interlock monitor switch operate properly, determine which of the following is defective : control circuit board, high voltage transformer, high voltage capacitor, high voltage diode or magnetron.

E. REMOVING CONTROL CIRCUIT BOARD

- (1) Remove the all connector and lead wires from the Control panel control circuit board.
- (2) Remove 3 screws to detach the control panel complete the oven cavity.
- (3) Remove the FPC connector from the connector S101 while pushing up the end of the plastic fastner .
- (4) Remove 6 screws securing the control circuit board.
- (5) Lift up the control circuit board from its left side and take out from the control base.

G.REMOVING TOUCH KEY BOARD

- (1) Remove the FPC connector from the connector S101 while pushing up the end of the plastic fastner.
- (2) Remove the control plate which is held on the control base with the adhesive tape from the front of control base.

H.REMOVING TIME CONTROLLER

After removing control circuit board;

- (1) Pull out the control knob.
- (2) Remove 6 screws securing the control frame.
- (3) Remove a hex. nut securing the time controller to the control base.

I. REMOVING MAGNETRONS

(See Figure 11)

1. When removing Magnetron of the rear side;

- (1) Remove all lead wires from blower motor, magnetron and thermal limiter on magnetron.
- (2) Remove the exhaust duct on the rear cavity by loosng 4 screws to detach 1 screw securing the stay.
- (3) Remove the stay by removing screw securing 2 magnetrons, front and rear cavity and 2 blower motor assembly.
- (4) Remove 2 screw securing the rear side duct.

(6) Remove magneron with blower assembly from the wave guide VERY CAREFULLY.

2. When removing Magnetron of the front side;
Take front side magnetron off after removing magnetron of the rear side.

- (1) Remove all lead wires from blower motor, magnetron and thermal limiter on magnetron.
- (2) Remove the exhaust duct on the rear cavity by loosng 4 screws to detach 1 screw securing the stay.
- (3) Remove the stay by removing screw securing 2 magnetrons, front and rear cavity and 2 blower motor assembly.
- (4) Remove 1 screw securing the front side duct.
- (5) Remove 4 hex. nuts securing the front side magnetron to the wave guide.
- (6) Remove magneron with blower assembly from the wave guide VERY CAREFULLY.

NOTES

- When removing the magnetron, make sure that its dome does not hit any adjacent parts, or it may be damaged.
- When replacing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.
- After replacing the magnetron, check the microwave energy leakage to ensure it is below the limit of $5\text{mW}/\text{cm}^2$.

HOW TO RESET THE MEMORY OF ACCUMULATIVE COOKING TIME:

Note; Total number of door operation can not be cleared.

When new magnetron is replaced, accumulative cooking time must be set to "Zero" as follows.

- (1) Touch "C" key. The "0" appear on the display/
- (2) Touch "Clock mark" key. The colon and power level ten bar will appear on the display.
- (3) Touch number key "8" three times. The "8.88" will appear on the display.
- (4) Continuously touch course key "1". "88.81" will appear on the display.
- (5) Touch "Start" key. All four digit will be flashing.
- (6) Touch "Start" key again. The displayed number shows the accumulative cooking time.
- (7) Touch "0" and "Memory" key. Accumulative cooking time will be cleared.

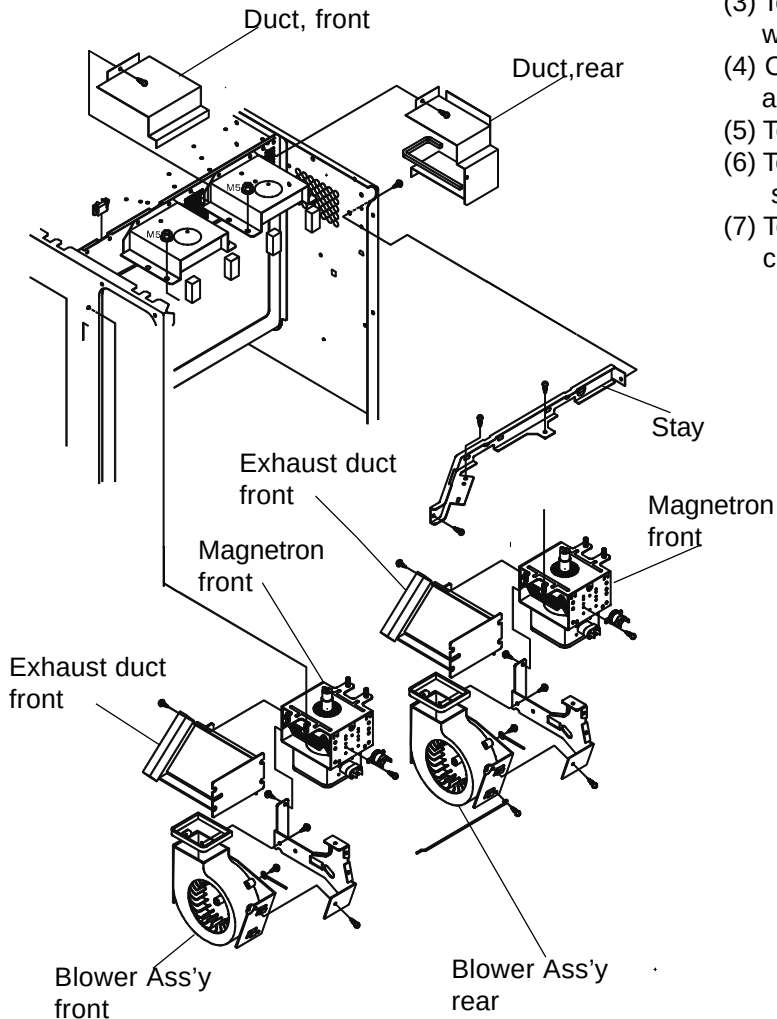


Figure 11

HINT FOR LAMP-CHANGE

Before removing the bulb access panel, pull out the main-plug. Change the faulty bulb and secure the bulb access panel. Plug the cord back in and check operation.

J. CHANGING POWER SUPPLY CORD

For EM-C2001SD

(See exploded view on page 16)

- (1) Unfasten 1 screw for ground and pull out the 2 wires of the power cord from the terminal plate.
- (2) Remove 1 screw for the bottom bracket of the cord bushing.
- (3) Install the new power supply cord with the reverse procedure of above (1) to (2).

WARNING:

For changing the power supply cord, never use other than the following.

Key No.	Order No.	Parts Name
5	617 208 1472	Power cord Ass'y
6	617 140 1332	Cord bush
7	617 140 1349	Bottom bracket

K. REMOVING CERAMIC TRAY ASS'Y

(See Fig.12)

- (1) Take off the cabinet.
- (2) Put (insert) a screwdriver in the 9 mm diameter hole located at the lower hinge of left side of the oven cavity. Push the tray up with the screwdriver.
- (3) Open the door and take out the tray very carefully.

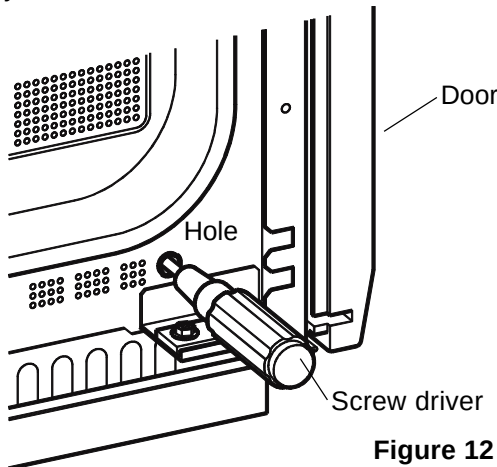


Figure 12

L.REMOVING DOOR

Remove 2 hex nuts securing the upper hinge, remove 3 hex nuts securing the lower hinge and remove 1 special screw securing the door arm (located at the bottom of the door sash).

NOTES

- After replacing the door, be sure to check that the interlock switch, the door sensing switch and the interlock monitor switch operate normally. (See pages 1 and 6)
- After replacing the door, check for microwave energy leakage with a leakage detector. Microwave energy leakage must be below the limit of 5mW/cm².

M.HOW TO RESET THE MEMORY OF ACCUMULATIVE COOKING TIME

1. Push the keys step by step as follows,
" CLEAR ", " TIME ", " 8 ", " 8 ", " 8 ", " 1 "
" START ", " START ".

The display will show accumulative cooking time in display window.

2. Then push the keys as follows.

" 0 ", " MEMORY ".

The Memory of Accumulative cooking time will be cleared.

N.RELEASING TYPE CONNECTOR

This oven is provided with locked type connectors. When you remove a connector, pull the connector while releasing the lock by pressing "A" point shown below. Do not pull the wire of the connector.

Connector:

S1, S2, S102, S104 (Figure 13)

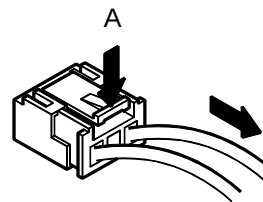


Figure 13

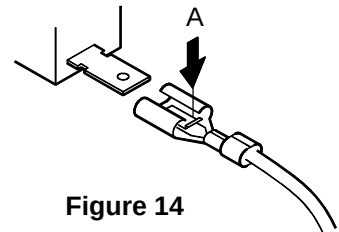


Figure 14

Pull connector case (Never pull the wire)

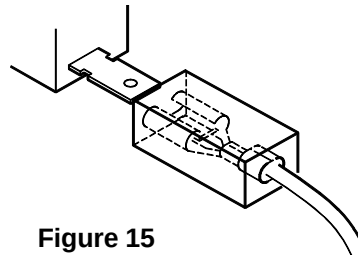
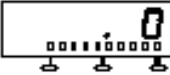
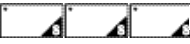
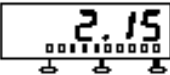
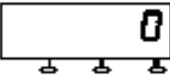


Figure 15

O.ADDITIONAL FUNCTIONS

CHECKING ACCUMULATIVE COOKING TIME, NUMBER OF DOOR OPERATIONS AND CONTROL OF THE BUZZER SOUND

Display shows accumulative cooking time or the number of door operations by key operation. Also, you can change any remaining cooking time, buzzer sound or buzzer volume.

	Operation	Display window
1	 Touch  key.	 0 appears in the display.
2	 Touch  key.	 The color and Power level 10 bar appear in the display.
3	 Touch number 8 three times.	 The 8.88 appears in the display.
*	Stages 1 to 3 are the same for all options. Input the 4th digit as follows to check or change the modes.	
4	 Input one of the following option (1-0) using the PROGRAMME SELECTION key.	 e.g Input 1 (accumulative cooking time).
5	 Touch  key.	 All 4 digits will be flashing.
6	 Touch  key again.	 The number 215 shows total cooking hours OR.
		 In case where options other than 1 or 2 were selected in stage 4, 0 appears in the display confirming that the new settings have been accepted.
7	 Touch  key.	 In case of option 1 or 2, the CLEAR key must be touched to clear the display. (Not necessary for option 3 to 0)

The following modes can be selected by inputting one of the numbers below at the operation stage 4 .

INPUT OPTIONS

- 1 ... Accumulative cooking time.

2 ... The number of door operation (100 times)

3 ... Indication of remaining cooking time (when cooking is interrupted by door opening).

4 ... To cancel remaining cooking time (when cooking is interrupted by door opening).

5 ... Tone of the buzzer on cooking completion (PipPipPip)

6 ... Tone of the buzzer on cooking completion (Peep)
- 7 ... The volume of the buzzer (quiet)

8 ... The volume of the buzzer (medium)

9 ... The volume of the buzzer (loud)

0 ... The volume of the buzzer (none)

Maintenance:

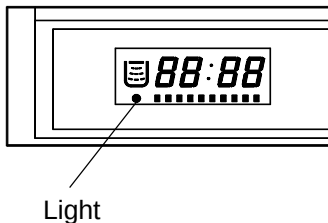
The microwave ovens are designed, manufactured, and tested for years of dependable operation. However, the oven may require service from time to time if the consumable components listed below are not replaced at the appropriate time. For protection from unexpected service calls and undue inconvenience, we recommend that the user has the listed parts replaced at the intervals below, (at customer cost).

This will avoid the trouble of repeated service calls after the expiration of the warranty period.

Consumable components:

When more than 1,250 hours of accumulative cooking time or more than 200,000 cycles of door opening/closing is observed by key operations (See page 14 for more information), the following consumable components should be replaced.

(Maintenance light in window display indicates when accumulative cooking time reaches 1,250 hours.)



1. Magnetron Tube, Part No. 415 002 6804
2. Printed Circuit Board-Relay, Part No. 617 202 0150
3. Switch base Assembly,
4. Door Latch, part No. 617 068 0998

When more than 2,000 hours of accumulative cooking time is observed, the following consumable components should be replaced.

5. Blower motor, Part No. 617 130 3728
When slow rotating of blower motor is observed after removing dust from blower motor, blower motor must be replaced.
6. Door hinge, Part No. 617 057 4518/617 057 5720
When a worn door hinge is observed and proper door adjustments can not be made, the door hinge must be replaced.
7. Door Assembly,
When a worn door pin is observed and proper door adjustments can not be made, the door assembly must be replaced.

Main body Parts-1

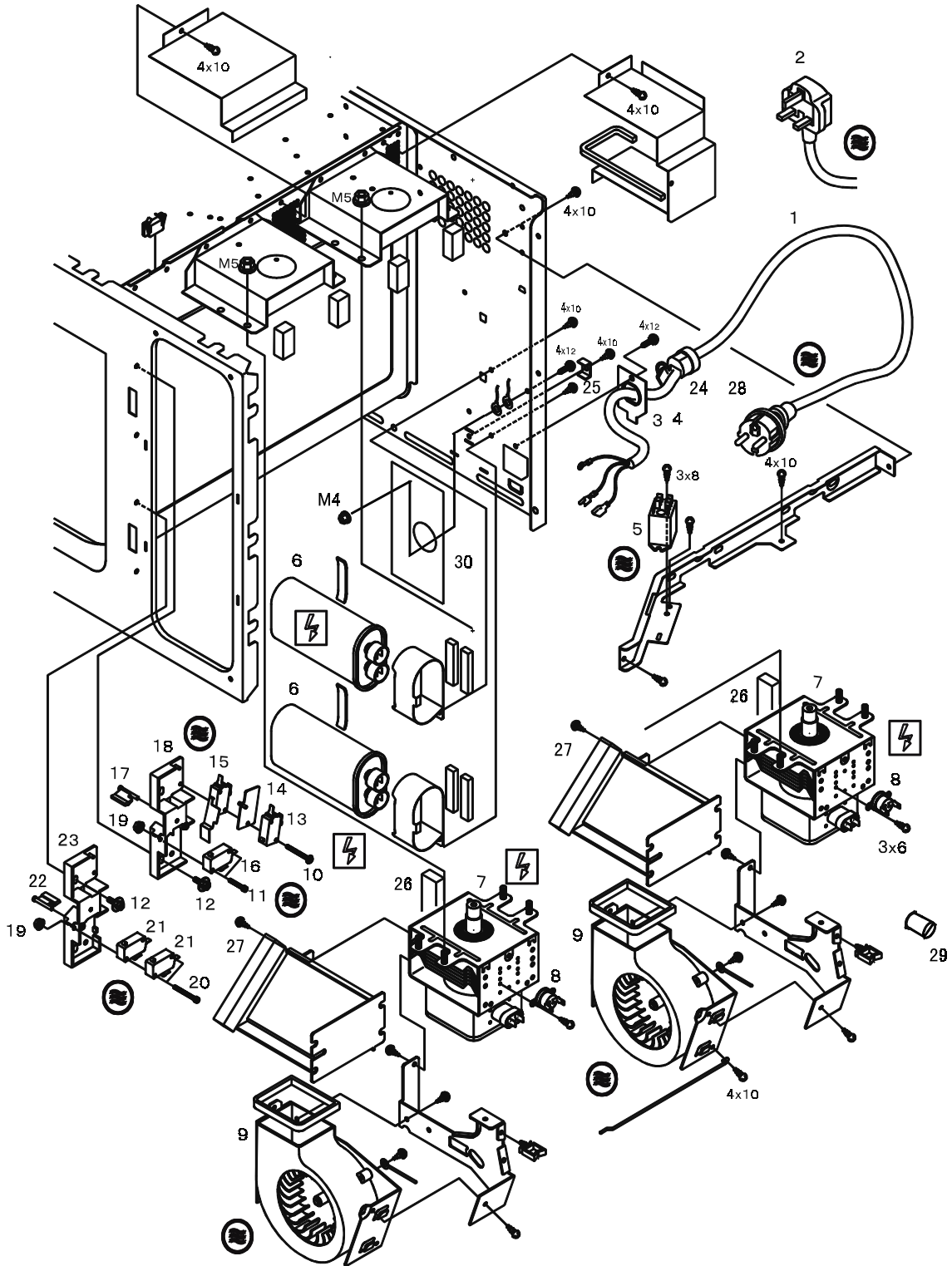


- 16 -

Main body Parts-1

KEY NO.	SERVICE PART NO.	DESCRIPTION	Q TY.
1	411 075 5300	SCR TPG OVL 3X8	1
2	617 055 9584	FRAME PLATE ASS'Y	1
3	412 018 3803	NUT HEX+CON-SW 2X10	1
4	617 065 5316	FRAME SUS-430 TO.7	1
5	617 224 8981	THERMISTOR ASS'Y	1
6	617 059 1966	DUCT ASS'Y	1
7	617 075 2657	COVER KIT, EXHAUST DUCT	1
8	423 018 7609	FUSE 250V 10A	2
9	617 207 6836	CLIP	2
10	617 206 7506	P.C.B COMP. NOISE FILTER	1
11	617 111 2337	LAMP PLATE	2
12	617 077 6356	LAMP SOCKET OKUNO PAO 2A250VT150	1
13	617 149 3009	LAMP 240/250V 25W E-14	1
14	617 080 6336	CANOE CLIP	1
15	617 074 1729	CAVITY COVER GUIDE	1
16	617 074 5062	STIRRER GUIDE	2
17	617 145 0033	SHELF ASS'Y	1
18	411 055 1407	NUT HEX 8	1
19	617 080 4844	SPECIAL WASHER, 8.5X16X0.5 TO.5XD16.5XD8.5	1
20	617 126 5491	STIRRER FAN A5052P TO.3	1
21	617 074 4140	STIRRER SHAFT BOSS TEFLON	2
22	617 181 3135	STIRRER SHAFT BOSS	1
23	617 074 4331	STIRRER SHAFT	1
24	617 137 3639	INSU. SHEET	1
25	617 133 5569	THERMOSTAT 122C	1
26	411 004 5203	NUT HEX 8	1
27	617 058 4944	STIRRER COVER, SD	1
28	617 227 0937	STIRRER COVER, UK	1
29	617 080 3601	SPECIAL SCREW 4X8	1

Main body Parts-2



Parts marked with this sign are supplied with high voltage exceeding 250V

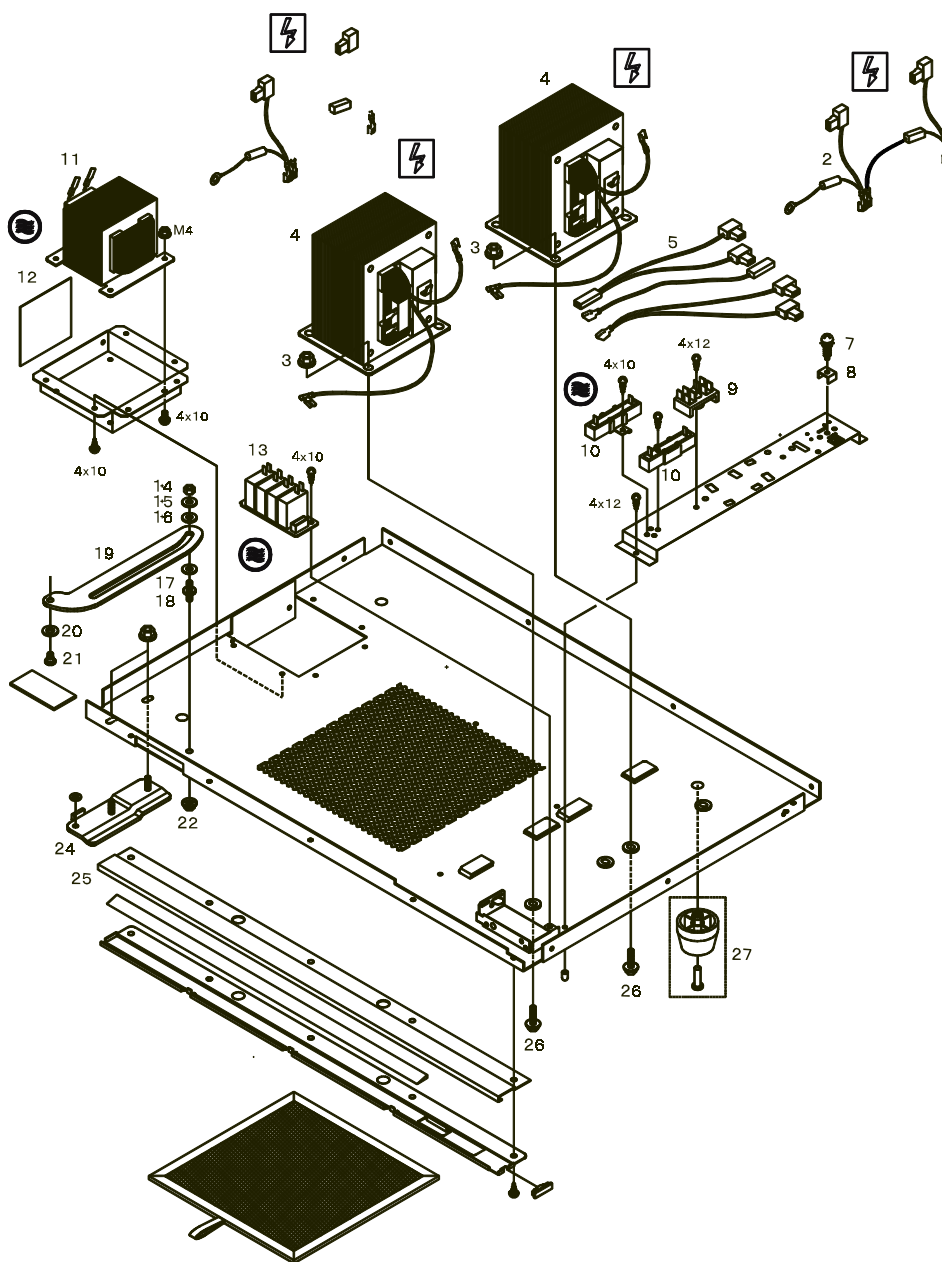


Parts marked with this sign have special Characteristics important for microwave leakage. When replacing any of these parts use only Manufacturers specified parts.

Main body Parts-2

KEY NO.	SERVICE PART NO.	DESCRIPTION	QTY
1	617 208 1472	CORD ASS'Y,SD KABELMETAL H07RN-F	1
2	617 196 9184	CORD ASS'Y, UK	1
3	617 140 1349	BOTTOM BRACKET,SD LGD T1.2 60160	1
4	617 125 3832	BOTTOM BRACKET,UK	1
5	617 131 3789	RELAY	1
6	617 195 1301	H.V.CAPACITOR MTST 1.30 2.4KV VDE	2
7	415 002 6804	MAGNETRON 2M248J(M)	2
8	617 140 1257	THERMOSTAT 150C	2
9	617 130 3728	BLOWER COMP. BM-1500UK	2
10	411 074 0207	SCR TPG PAN+FLG 3X30	1
11	411 045 3909	SCR PAN+SW 3X20	2
12	412 025 0000	SCREW PAN 4X12	4
13	617 004 5575	MICRO SWITCH MONITOR YAMATAKE V-5220DZ	1
14	617 078 1091	SWITCH SHEET POLYCARBONATE	1
15	617 143 3548	MICRO SWITCH MONITOR	1
16	617 215 8662	MICRO SWITCH DOOR SENSING V-5232D-157 YAMATAKE	1
17	617 068 2770	LATCH LEVER	1
18	617 068 1834	LEVER STOPPER	1
19	411 054 1606	NUT HEX+FLG W/SRT 3	2
20	411 045 4401	SCR PAN+SW 3X30	2
21	617 124 2294	MICRO SWITCH,LATCH YAMATAKE V-5130D	2
22	617 068 2718	LATCH LEVER	1
23	617 068 1803	LEVER STOPPER	1
24	617 140 1332	CORD BUSH,SD SR-31-2	1
25	617 195 1295	SPECIAL WASHER BRASS T1.0 NI PLATIN	1
26	617 143 3470	PACKING MAGNETRON CR	2
27	617 143 3456	DUCT P.P GF20%(V-7100)	2
28	617 078 3132	CORD BUSH,UK	1
29	617 181 2206	FERRITE HF70RU-16-28-9	4
30	617 145 6639	INSULATION SHEET	1

Microwave Parts



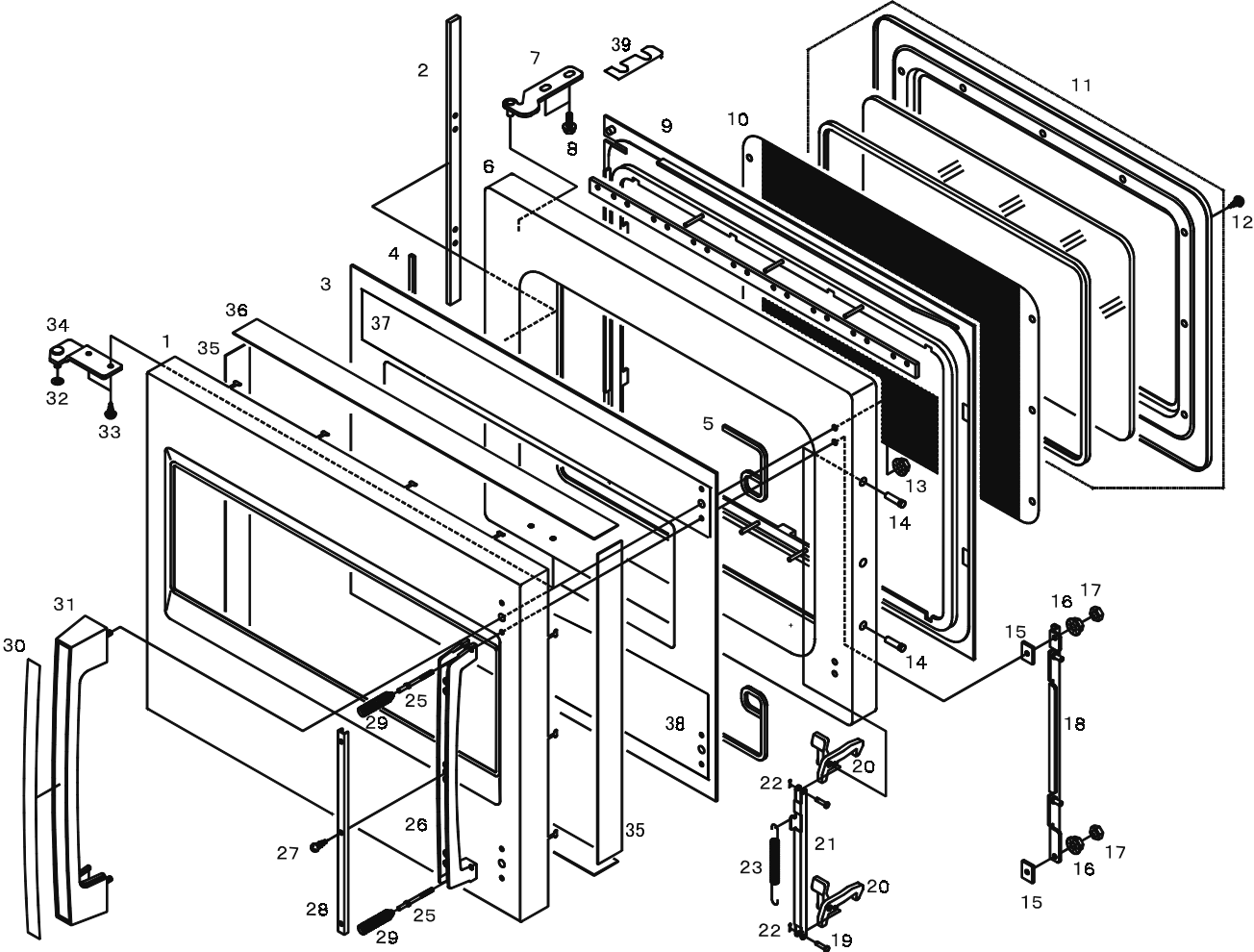
 Parts marked with this sign are supplied with high voltage exceeding 250V

 Parts marked with this sign have special Characteristics important for microwave leakage. When replacing any of these parts use only Manufacturers specified parts.

Microwave Parts

KEY NO.	SERVICE PART NO.	DESCRIPTION	QTY.
1	617 183 6004	HARNESS WITH HV DIODE	1
2	617 183 6288	HARNESS WITH HV DIODE	1
3	411 004 3506	NUT HEX+FLG W/SRT 5	4
4	617 178 3124	HIGH VOLTAGE TRANSFORMER N5T-C2000SD	2
5	617 224 9018	HARNESS NOISE FILTER	1
8	617 195 1295	SPECIAL WASHER BRASS T1.0 NI PLATIN	1
9	617 192 2110	TERMINAL PLATE	1
10	402 061 1505	CERAMIC RES 25 J 20W MTST ERF-20HMJ250	2
11	617 178 2325	POWER TRANS (REACTOR) HLT-10MH	1
12	617 078 2210	INSU. SHEET	1
13	617 202 0150	P.C.B COMP. RELAY	1
14	411 004 3506	NUT HEX+FLG W/SRT 5	1
15	617 080 5186	SPECIAL WASHER SPG T1.0XD5XD13	1
17	617 080 5179	SPECIAL WASHER	2
18	617 080 3830	SPECIAL SCREW	1
19	617 068 3623	DOOR ARM	1
20	617 080 5179	SPECIAL WASHER	1
21	617 080 3847	SPECIAL SCREW SUS-304 D6	1
22	411 055 0202	NUT HEX 5	1
24	617 057 4501	HINGE ASS'Y	1
25	617 056 1501	BOTTOM B.C.T ASS'Y	1
26	617 102 7495	SPECIAL SCREW CAP TIGHT SELLATIONS	4
27	617 056 1594	FOOT CUSHION ASS'Y NIFCO	4
28	617 059 1737	FILTER ASS'Y	1

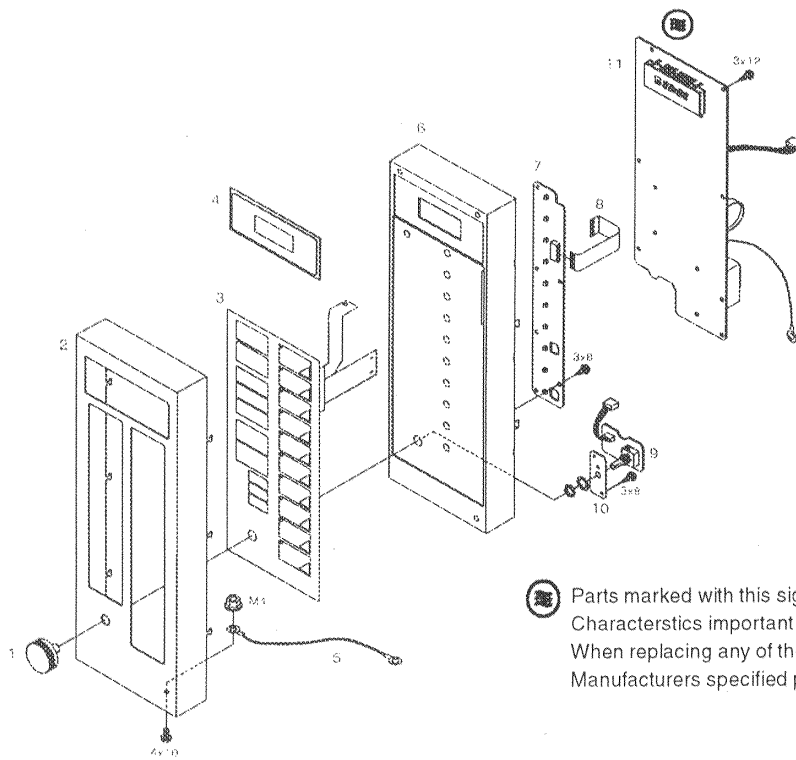
Door Parts



Door Parts

KEY NO.	SERVICE PART NO.	DESCRIPTION	QTY.
1	617 226 4059	DOOR COVER ASS'Y	1
2	617 073 6954	CAVITY GASKET	1
3	617 224 8660	DOOR PANEL (PLASTIC)	1
4	617 150 6167	PACKING	1
5	617 150 6150	PACKING	1
6	617 056 2935	DOOR MAIN FRAME	1
7	617 057 4518	HINGE ASS'Y	1
8	412 018 2103	BOLT HEX C-SCT 5X16	2
9	617 227 0920	CHOKE DIELECTRIC ASS'Y	1
10	617 067 5918	PUNCHING PLATE PERFORATED SCREEN	1
11	617 158 7265	PUNCHING PLATE ASS'Y	1
12	411 051 3108	SCR TRS 4X8	12
13	411 054 1705	NUT HEX+FLG W/SRT 4 S RONA M4 Z1	2
14	617 068 3555	ARM PIN S30C Z1	2
15	617 149 9728	CAVITY G.	2
16	411 054 1606	NUT HEX+FLG W/SRT 3	2
17	411 004 4404	NUT HEX 3	2
18	617 057 3771	LATCH LEVER ASS'Y	1
19	617 068 3562	ARM PIN SUS-430 D3X13	2
20	617 068 0998	DOOR LATCH	2
21	617 068 2671	LATCH LEVER	1
22	411 005 0108	R PIN	2
23	617 080 9146	SPRING SUS-304 D1.2	1
25	617 224 8646	LATCH PIN	2
26	617 224 8639	HANDLE LEVER	1
27	411 070 6005	SCREW TPG BIN 3X6	3
28	617 080 6947	STAY PLATE KBEC45 T1.0X225X18X	1
29	617 080 8316	SPRING, DOOR HANDLE SUS-304WPA	2
30	617 067 9039	DOOR HANDLE COVER	1
31	617 224 8622	DOOR HANDLE	1
32	617 028 8040	SPECIAL WASHER SUS304 D5.5XD14XT0.8	1
33	411 050 7206	SCR TRS 4X10	2
34	617 057 5720	HINGE ASS'Y	1
35	617 227 7387	SPACER ASS'Y.	3
36	617 227 7394	SPACER ASS'Y.	1
37	617 227 7363	SPACER ASS'Y.	1
38	617 227 7370	SPACER ASS'Y.	1
39	617 068 6303	HINGE SHIM P.T T0.8	2

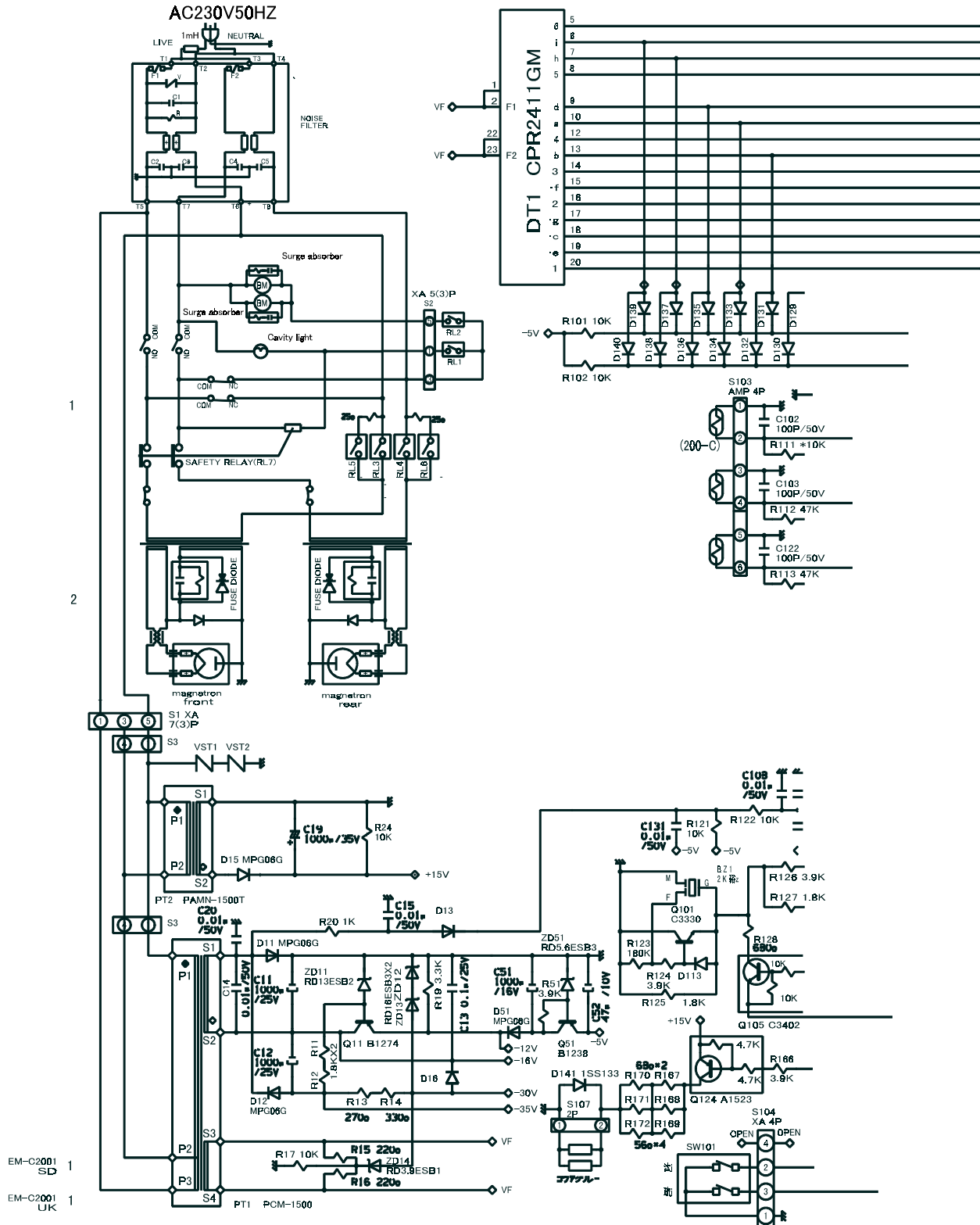
Control panel Parts

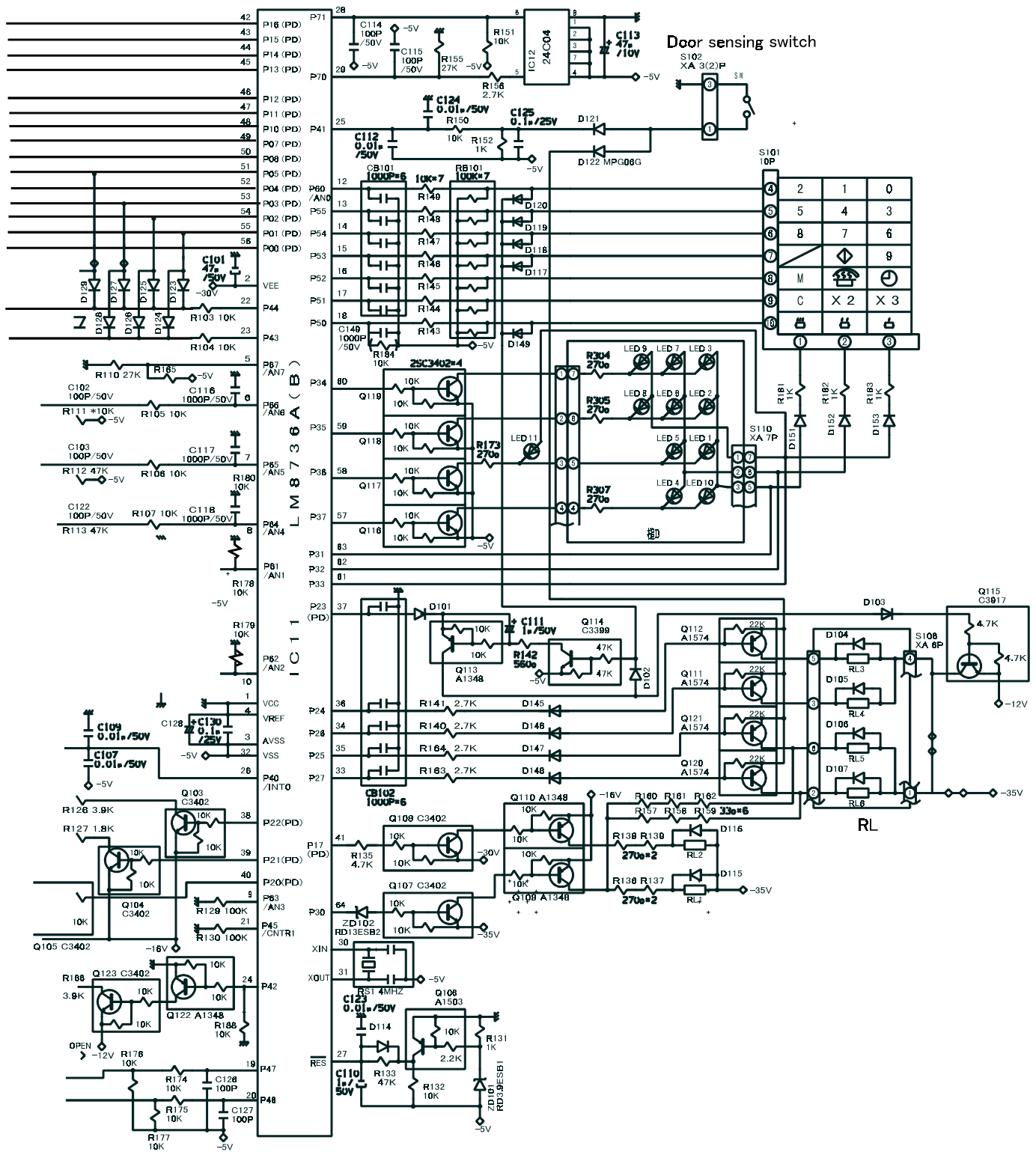


Parts marked with this sign have special Characteristics important for microwave leakage. When replacing any of these parts use only Manufacturers specified parts.

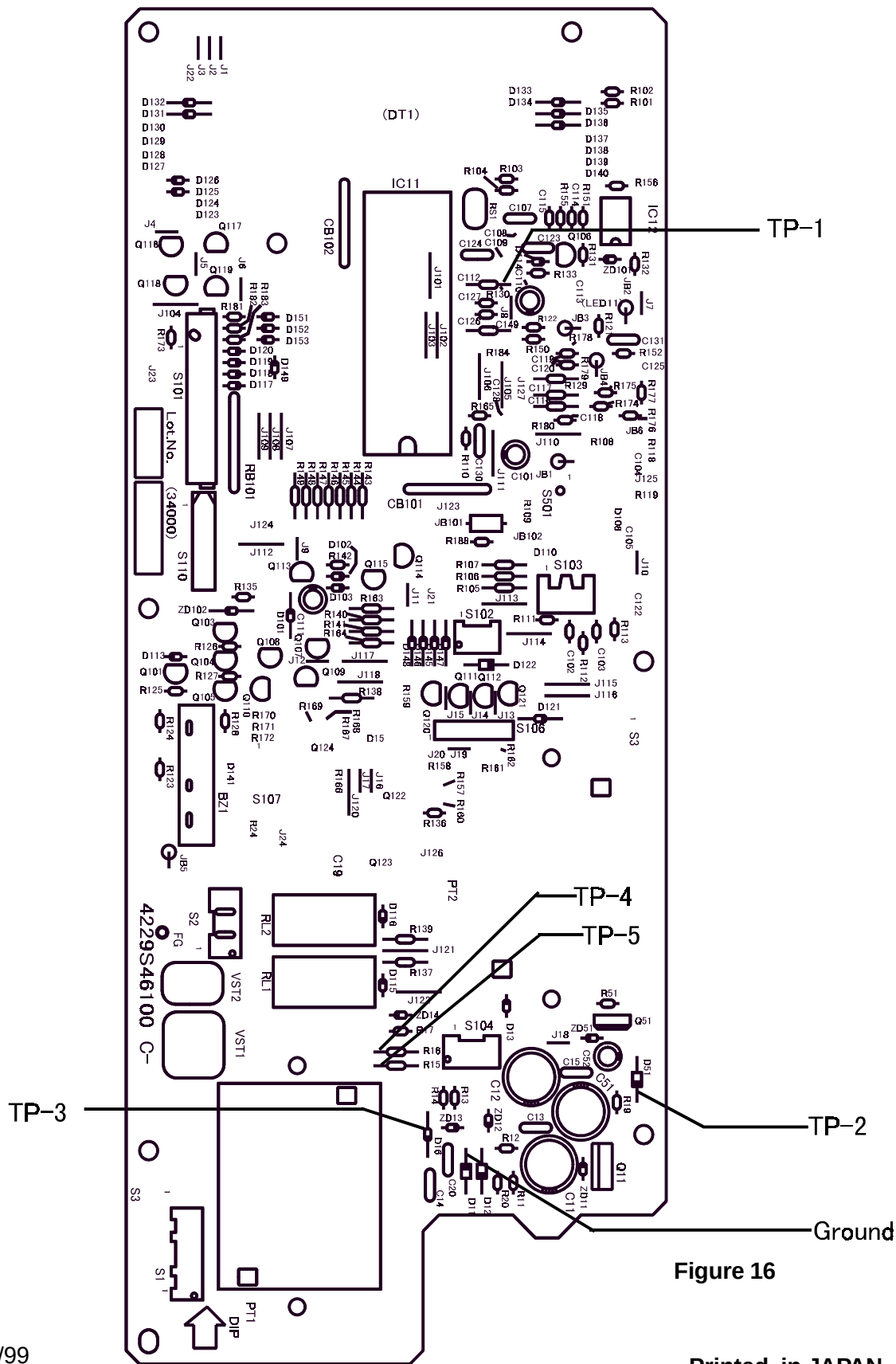
KEY NO.	SERVICE PART NO.	DESCRIPTION	QTY.
1	617 224 8745	KNOB ASS'Y	1
2	617 226 4066	CONTROL COVER	1
3	617 224 8905	KEY BOARD	1
4	617 226 4073	CONTROL PLATE.DISPLAY	1
5	617 226 7029	LEAD WIRE ASS'Y.EARTH	1
6	617 224 8776	CONTROL BASE	1
7	617 221 2425	P.C.B COMP.DISPLAY	1
8	617 164 9307	FLAT CABLE	1
9	617 224 8806	SWITCH ASS'Y PCB COMP	1
10	617 213 8596	PARTS BASE SWITCH	1
11	617 221 2418	P.C.B COMP. CONTROL	1
12	617 224 9070	OPERATING INSTRUCTIONS	1

9. OVERALL CIRCUIT DIAGRAM





CONTROL CIRCUIT BOARD



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